Panasonic®

Operating Instructions

Home Photo Printer



Thank you for purchasing this Panasonic Home Photo Printer.

■ Please read this manual carefully to ensure proper operation. Especially, be sure to read the "Important Safety Instructions" (pages 6 – 8) before using this product. Store this manual and warranty in a safe place for future references.

Accessory Purchases

Purchase Parts, Accessories and Instruction Books online for all Panasonic Products by visiting our Web Site at:

http://www.pasc.panasonic.com

or, send your request by E-mail to:

npcparts@us.panasonic.com

Thank you for purchasing a Panasonic Home Photo Printer.

For your future reference

Date of purchase

Serial number (found on the rear of the unit)

Dealer's name and address

Dealer's telephone number

Attach your sales receipt here.

Caution:

Note that the images of printed documents will remain on the used ink sheet. Use discretion when disposing of the used ink cassette.

Notation in these operating instructions

The icons below denote the important information in order that will help you use these operating instructions efficiently.

(pp p. xx) : Indicates reference page.

Printer : Indicates the functions that you can use with the printer only.

Camera Printer : Indicates the functions that you can use when the printer is connected to a digital camera, etc.

PC : Indicates the functions that you can use when the printer is connected to a computer.

Package Contents

Check that you have all of the following before using the product. If any items are found to be defective or missing during your check, please contact your dealer. Note that a Paper and Ink set (sold separately) is required in order to print (product) product (pro

Photo printer and accessories

□ Photo Printer x 1



☐ Power cord x 1 (Part number: PFJA02A007Z)



Paper cassette x 1
 (for Postcard size paper and Wide size paper)
 (Part number: PFZCPX2E)



☐ AC adaptor x 1 (Part number: PFAP1016 or PFAP1017)



Others

- Operating Instructions (this manual) x 1
- □ CD-ROM (Printer Driver) x 1
- ☐ Starter kit
 - Ink cassette x 1 (for postcard size paper, enough for 5 prints)
 - Postcard size paper ... 5 sheets (5 sheets x 1 bag)

Table of Contents

Before Use			
Package Contents			
Preparation			
Paper and Ink Cassettes (Sold Separately) 12 Handling 12 Inserting the Paper 14 Inserting the Ink Cassette 16 Connecting a Power Source 18			
Printing			
PictBridge Printing with a Digital Camera19Printing with the LCD Monitor21Changing the language23Printing single image25Printing multiple images26Printing with various print settings28Printing all images on a memory card32Printing an index33Printing using DPOF settings35			
Changing Settings			
Device Settings			
Advanced Operations			
Searching for Images			

With PC			
Printing with a Computer	51		
System requirements			
Installing the printer driver			
Printing from the computer			
Status monitor	56		
License agreement	57		
Others			
If a Paper Jam Occurs	58		
LED Indicators			
Troubleshooting			
Message Display			
Maintenance			
Specifications			
List of Factory Settings			
Additional Information			

Customer Services Warranty

Important Safety Instructions

When using this unit, basic safety precautions should always be followed to reduce the risk of fire, electric shock, or personal injury.

- 1. Read and understand all instructions.
- 2. Follow all warnings and instructions marked on the unit.
- Unplug this unit from wall outlets before cleaning. Do not use liquid or aerosol cleaners. Use a dry cloth for cleaning.
- Do not use this unit near water, for example near a bathtub, wash bowl, kitchen sink, etc.
- Place the unit securely on a stable surface. Serious damage and/or injury may result if the unit falls.
- Do not cover air vents on the unit.
 They are provided for ventilation and protection against overheating.
 Never place the unit near radiators, or in a place where proper ventilation is not provided.
- Use only the power source marked on the unit. If you are not sure of the type of power supplied to your home, consult your dealer or local power company.
- 8. Do not place objects on the power cord. Install the unit where no one can step or trip on the cord.
- Do not overload wall outlets and extension cords. This can result in the risk of fire or electrical shock.
- 10.Do not damage the power cord, plug or AC adaptor. Consult your dealer in case where these items need to be repaired.
- 11. Do not touch the plug with wet hands.
- 12.Do not use a damaged plug or AC adaptor or slack cord. Insert the power plug fully and firmly.
- 13. Regularly clear away dust from the power plug.

- 14. Never push any objects through slots in this unit. This may result in the risk of fire or electric shock. Never spill any liquid on the unit.
- 15. To reduce the risk of electric shock, do not disassemble this unit. Take the unit to an authorized service center when service is required. Opening or removing covers may expose you to dangerous voltages or other risks. Incorrect reassembly can cause electric shock when the unit is subsequently used.
- 16. Unplug this unit from wall outlets and refer servicing to an authorized service center when the following conditions occur:
 - A. When the power cord is damaged or frayed.
 - B. If liquid has been spilled into the unit.
 - C. If the unit has been exposed to rain or water.
 - D. If the unit does not work normally by following the operating instructions. Adjust only controls covered by the operating instructions. Improper adjustment may require extensive work by an authorized service center.
 - E. If the unit has been dropped or physically damaged.
 - F. If the unit exhibits a distinct change in performance.
- 17. During thunderstorms, avoid using the unit. There may be a remote risk of an electric shock from lightning.
- 18.Do not place memory cards within reach of infants. If you believe a child has swallowed a memory card, contact a physician immediately.

SAVE THESE INSTRUCTIONS

WARNING:

- To prevent the risk of fire or electrical shock, do not expose the product to rain or any type of moisture.
- Unplug the product from power outlets if it emits smoke, an abnormal smell, or makes an unusual noise.
 These conditions can cause fire or electric shock. Confirm that smoke has stopped emitting and contact the Panasonic Call Center at 1-800-211-PANA (1-800-211-7262).

CAUTION:

- The wall outlet shall be installed near the equipment and easily accessible or the power plug or an appliance coupler shall remain readily operable.
- Although the power button is in the "OFF" position, the unit is not completely disconnected from the power supply. Remove the plug from the wall outlet if you will not be using the unit for an extended period of time. Place the unit so the plug can be easily removed.
- Be sure to remove the memory card from the unit before disconnecting the power cord.
- When moving the unit, disconnect the power cord.
- Do not place heavy object on the unit, or sit on it.
- Do not use the unit in a location exposed to sooty or steamy emissions, dampness or excessive dust.
- Avoid placing the unit in locations subject to high temperatures. In particular, avoid placing the unit in locations subject to direct sunlight or close to stoves.
- Take care not to catch your fingers in the opening for the ink cassette and paper cassette.
- Do not touch the paper during printing. Paper moves back and forth 4 times during printing. Do not touch the paper until the printing process has finished.
- Do not touch the thermal head located inside the unit as this may lead to burn injury.

Important Safety Instructions

FCC NOTE: (U.S. only)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: To assure continued compliance, follow the attached installation instructions and use only shielded cables when connecting to computer or other devices. Also, any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This equipment complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This equipment may not cause harmful interference, and (2) this equipment must accept any interference received, including interference that may cause undesired operation.

Responsible party:

Panasonic Corporation of North America One Panasonic Way, Secaucus, New Jersey 07094 Phone number: 1-800-211-PANA (1-800-211-7262)

Information on Disposal in other Countries outside the European Union



This symbol is only valid in the European Union.

If you wish to discard this product, please contact your local authorities or dealer and ask for the correct method of disposal.

Notes on Use

Usage locations

■ Printer usage location

• Do not use in the following locations:

- · Locations subject to a lot of dust or lint, as this may lead to inability to print cleanly.
- In direct sunlight, near an air conditioner, or in any other location where temperature may rise above 35 °C (95 °F) or fall below 5 °C (41 °F). There is a risk of causing malfunction, deformation, or damage to the printer.
- On a piano or a carpeted surface. There is a risk of causing damage or discoloration.
- Where it can be exposed to tobacco smoke. There is a risk of causing the printer to malfunction.

Keep away from magnetic and/or electronic hardware.

In order to prevent adverse electromagnetic effects, be sure to operate as far away as possible from the following type of appliances.

· Mobile phones, microwave ovens, electronic game units and stereo speakers.

• Do not use the printer vertically.

This may cause the printer to malfunction.

■ If the printer's inner components overheat

When the ambient temperature is high or when continuous printing has been performed, printing operations may temporarily halt in order to keep the internal temperature of the printer from rising. Printing will automatically resume when the internal temperature of the printer goes down. Ensure that the printer is used in a well-ventilated location.

■ When ambient temperatures are low

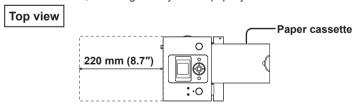
To maintain high quality image output, the printer does not begin printing until the internal temperature has warmed up, so it may take some time before printing starts. Printing starts automatically once the temperature has risen sufficiently.

■ To prevent the printer deformation and keep the case finish

Do not spill or allow any volatile solvents, such as benzine, paint thinner, or other solvents or insecticide to come in contact with the printer. Also, do not maintain contact with the printer by rubber or vinyl-coated materials for an extended period of time. This may damage the surface of the printer or cause the case finish to peel.

■ Required space during printing

Paper is ejected and inserted from the rear panel of this printer during printing. Do not place any objects within 220 mm (8.7") of the rear panel of the printer. Use the printer on a flat surface, not doing so may lead to paper jams.



Notes on Use (continued)

Storage

■ Storing paper and ink cassettes

After use, remove the paper cassette from the printer, close the cassette lid, leaving any remaining paper in the paper cassette. Then insert the paper cassette into a plastic bag and store so that it lies flat.

Avoid placing the paper and ink cassette in locations subject to high temperature, high humidity or direct sunlight. After opening the original packaging, use all the paper as soon as possible.

■ When the printer is not to be used for an extended period of time

- To conserve electric power, turn off the printer's power and disconnect the power cord.
 (The printer will continue to consume less than 1 W of power even after the unit is turned off by pressing the POWER button if it is plugged in.) Leaving the printer idle for long periods may impair functionality. Make sure you turn the printer's power on and operate the printer at least once every six months.
- Remove the paper cassette, ink cassette and memory card from the printer. Then close the printer covers.

About the LCD monitor

- Do not apply direct pressure to the LCD monitor screen. Doing so can cause uneven color display and can permanently damage the monitor.
- In a place with drastic temperature changes, condensation may form on the LCD monitor.
 Wipe it with a soft, dry cloth.

Extremely high precision technology is employed to produce the LCD monitor screen. The result is more than 99.99 % effective pixels with a mere 0.01 % of the pixels inactive or always lit. However, this will not be printed.

 Be advised that the color and contrast of the printed image may differ slightly from the appearance of the LCD monitor. This is normal and does not indicate a malfunction.

Copy-prohibited items

■ Copying of software is prohibited

Copying of software supplied with this printer for unauthorized commercial purposes or copying on networks is prohibited.

■ Copying of prohibited material

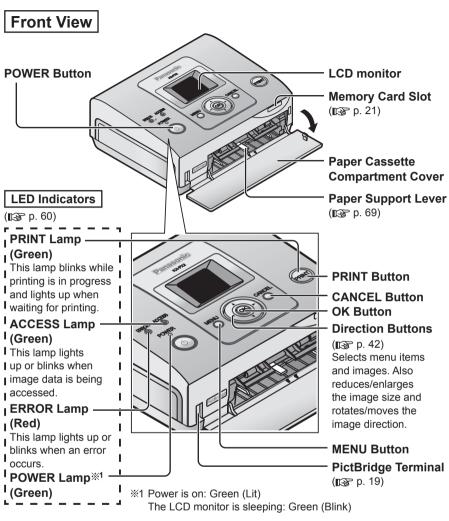
Printing of monetary notes or marketable securities is illegal and a criminal offence depending on the intention and means of application of the printed material.

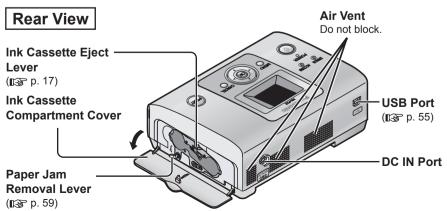
When disposing of, transferring ownership or returning the printer

■ Note that information you have printed will remain in the ink cassette after printing. Be sure to dispose of the ink cassette to avoid unexpected damages due to distribution of this information (

p> p. 17).

Names and Functions of Each Part





Paper and Ink Cassettes (Sold Separately)

· Starter kit is included (5 sheets of postcard size paper).

Use only paper and ink cassettes in the Paper and Ink set described below. Paper and ink cassettes are kits consisting of paper and ink together.

Do not use postcard and ink jet type paper.

(This will cause paper jams and the printer to malfunction.)

- Ensure that only the ink cassette and papers, which come together as part of a set, are used with the printer. The ink cassettes included in the Paper and Ink set provide enough ink to print the number of sheets included in the Paper and Ink set. Always replace the ink cassette when using a new Paper and Ink set.
- Do not mix other Paper and Ink sets, as quality printouts may not be possible.

Please purchase separately sold accessories from your dealer.

Item	Model No.	Paper size	Remarks
Paper and Ink set (Protective coating)	KX-PVMS36KM	101 x 152 mm ^{※1} (3.98" x 5.98")	Ink cassette x 1 (enough for 36 prints) Postcard size paper 36 sheets (18 sheets x 2 bags)
	KX-PVMS108KM	101 x 152 mm ^{※1} (3.98" x 5.98")	Ink cassette x 3 (a cassette provides enough ink to print 36 sheets) Postcard size paper 108 sheets (18 sheets x 6 bags)
	KX-PVMS20WM	101 x 180 mm ^{※1} (3.98" x 7.09")	Ink cassette x 1 (enough for 20 prints) Wide size paper 20 sheets (20 sheets x 1 bag)

X1 This represents the paper size per sheet (after cutting).

Handling

Paper and Ink set

- Before using a Paper and Ink set, ensure that you acclimatize the Paper and Ink set to
 the ambient temperature prior to opening. In particular, if the Paper and Ink set has been
 stored at a low temperature, condensation (pp p. 63) may occur due to the difference in
 temperatures.
- Avoid storing paper and ink cassettes in places subject to high temperature, high humidity or direct sunlight. This may lead to deterioration of print quality or prevent printing capability.

During printing

- Do not open the ink cassette compartment cover, as print quality may be reduced.
- Do not remove the paper cassette or ink cassette.
- · Do not pull the paper while it is moving.
- Be sure to remove printed paper before 10 or more sheets have piled up. Failure to do so
 may result in a paper jam. Be particularly sure to remove paper with a high degree of curl
 before it piles up.
- · Do not touch the print surface with your fingers.

After printing

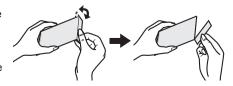
- Do not remove unused sheets of paper from the paper cassette. Close the cassette lid, then
 insert the paper cassette into a plastic bag and store so that it lies flat.
- After removing the paper cassette, close the paper cassette compartment cover to prevent dust from getting inside the printer.
- Remove the ink cassette and store it in a plastic bag or other safe container.

Handling printed paper

- Pay special attention to the following, otherwise discoloration, fading and color transfer may occur.
 - Do not allow objects such as vinyl desk mats, name card cases, or plastic erasers to come in contact with the printed surfaces. When storing printed paper in an album, select holder sleeves made of nylon, polypropylene or cellophane.
 - Do not allow any volatile solvents such as alcohol to come in contact with the printed surface.
 - Do not touch the printed surface.
 - Do not leave printed surfaces in contact with one another, or place any other papers on printed surfaces for a certain period of time.
 - Do not store printed paper in locations subject to high temperature, high humidity, or direct sunlight.
- When writing on a printed surface, use permanent markers (oil-based) only. You may use
 permanent markers (oil-based), water-based markers, pencils and oil-based ball point pens
 to write on the back of printed papers.
- You can use printed images for your personal enjoyment. Copyright laws prevent their use in any other way without the written permission of the copyright holders.
- Do not reuse paper that has already been printed on.
 In the case where a picture was printed to only a portion of the paper, do not attempt to reuse and print a second image on the same sheet at a later time. Doing so will damage the print ink cartridge and could permanently damage the printer.

Note

- When cutting paper after printing, fold the paper along the perforated line. Then reverse the fold in the opposite direction and cut the paper along the folded line.
- If you are printing on the reverse side of a sheet with a different printer, the ink may take some time to dry.

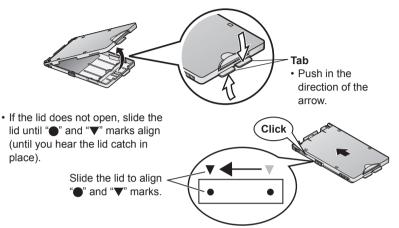


Inserting the Paper

For details on paper, refer to page 12.

1

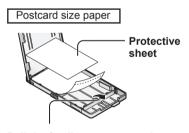
Open the paper cassette lid.



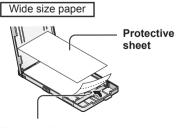
2

Insert paper in the paper cassette.

- Do not reuse paper that has already been printed on.
- Adjust the feeding stop according to the paper size you want to use.
- Fan the paper to avoid multi-sheet feeds.
 Place the paper in the paper cassette without removing protective sheet so as not to touch the print surface.
 - The protective sheet will stick out a little bit.
 - Remove the protective sheet and close the paper cassette lid.
 - Take care not to leave fingerprints on the paper.



Pull the feeding stop upwards.



Push the feeding stop down.

3 Insert the paper cassette to the printer.

Slide the paper cassette lid forward until it catches in place.

Click

Slide the lid to align "●" and "▼" marks.

If you do not slide the lid far enough, it will not attach properly to the printer.

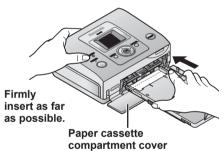
Pull the paper stop upwards.

Open the paper cassette compartment cover and insert the paper cassette firmly while holding the unit.

- Make sure that the positions of the "

 " and "

 " do not shift when attaching the paper cassette.
- If the positions of the "●" and
 "▼" are misaligned, paper may not
 feed correctly.



Important

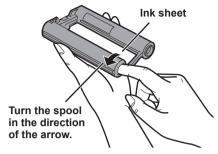
- Do not load more than 18 sheets of paper (or 20 sheets of wide size paper) in the paper cassette.
- Be sure to remove printed paper before 10 or more sheets have piled up.
- Do not touch the print surface (the plain, glossy side) or allow it to get dirty. Clear prints may become impossible if the print surface gets dirty, stained by fingerprints, or wet with water.
- · Do not bend or fold the paper or load it in the cassette with the reverse side facing upward.
- · Do not stretch the paper. This may lead to paper jam or prevent printing capability.
- · Do not remove the perforated section before printing.
- · Do not affix stamps or adhesive seals to the paper before printing.
- Do not print on the paper with a word processor before printing with this printer.
- Do not write on the paper before printing with this printer.
- Do not remove unused sheets of paper from the paper cassette. Close the cassette lid, then insert the paper cassette into a plastic bag and store so that it lies flat.

Inserting the Ink Cassette

For details on ink cassette, refer to page 12.

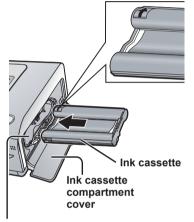
If the ink sheet is slack, tighten it.

• Turn in the direction of the arrow displayed on the ink cassette.



Open the ink cassette compartment cover and insert the cassette into the printer.

- Insert the ink cassette as far as it will go with the arrow mark facing forward until it catches in place.
- If you cannot insert the ink cassette until it catches in place (p> p. 62).



When using the printer for the first time, be sure to remove the padding used during transportation.

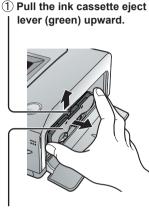
Close the ink cassette compartment cover.

Removing the ink cassette

Open the ink cassette compartment cover.

Pull the ink cassette as shown in the figure to the right.

?



2 Pull the ink cassette straight out.

Close the ink cassette compartment cover.

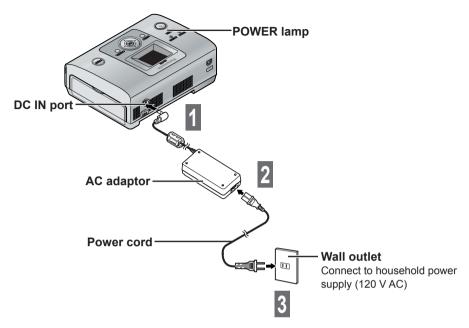
Notice of Ink Cassettes

The numbers of the ink sheets and papers in the Paper and Ink set are matched. An ink cassette provides enough ink to print 36 sheets of paper (20 sheets of paper when using wide size paper). Store the ink cassette and papers used together. The number of the rest of papers give an indication of the number of the rest of the ink sheets. (If you use a sheet of paper more than twice, the number of the rest of the ink sheets may not be matched.)

Important •

- Do not open the ink cassette compartment cover during printing, as print quality may be reduced.
- Do not reuse a used ink cassette and be sure to dispose according to local regulations.
- Do not touch or pull on the ink sheet until it is used up.

Connecting a Power Source



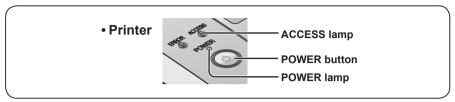
CAUTION:

- · Never touch the power cord during a lightning storm.
- When you operate this product, the wall outlet should be near the product and easily accessible.
- · Use only the included AC adaptor and power cord.

PictBridge Printing with a Digital Camera



You can connect the printer to a PictBridge compatible digital camera or digital video camera to print recorded images. An example of connecting to the Panasonic digital camera LUMIX (DMC-FX9) is described here.



Insert the memory card into the digital camera.

Turn the digital camera on and set it to PictBridge mode.

 For details on how to operate the digital camera, refer to the digital camera's operating instructions.

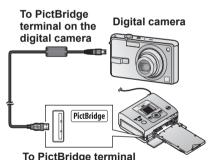
Turn the printer on.

- The POWER lamp on the printer lights up in green.
- Turning off the power
 Press the POWER button for approximately
 1 second. The POWER lamp goes out.

Connect the digital camera to the printer using the USB cable provided with the digital camera.

- Do not connect the digital camera to the printer when the printer is processing a print job, as print quality may be reduced.
- The ACCESS lamp on the printer blinks twice.

Sample connection



To PictBridge terminal on the front panel of the printer

PictBridge Printing with a Digital Camera (continued)



5

Follow the on-screen instructions on the digital camera to proceed the printing operation.

6

When printing has finished, turn the printer off and disconnect the USB cable.

Important · · · ·

- Connect only PictBridge compatible devices to the PictBridge terminal.
- Do not connect a USB flash drive to the printer. This printer does not support USB flash drives.
- Do not disconnect the cable or turn off the power while the ACCESS lamp is lit. (This may damage the data or could result in a malfunction of the printer.)
- Refer to the digital camera's operating instructions for a description of PictBridge operations.

Note

- Certain PictBridge compatible devices may not operate correctly with this printer.
- If an error occurs, depending on the model, the digital camera may not display or operate properly. Turn the camera and printer off and then turn them back on.
- TIFF format images cannot be printed directly from PictBridge compatible devices such as digital cameras (ps p. 70).
- When printing images with DPOF settings from PictBridge compatible devices, settings such as the date are controlled by the DPOF setting.
- Settings on the printer driver (p→ p. 52 55) have no effect when printing directly from PictBridge compatible devices.
- When printing from a PictBridge compatible devices, image adjustments made on the printer side are disabled.
- PictBridge is an industry standard from CIPA, (Camera & Imaging Products Association) for direct printing. It allows images to be printed directly from digital cameras to a printer, without having to connect the camera to a computer.

Printing with the LCD Monitor



You can print images stored on SD Memory Card or MultiMediaCard.

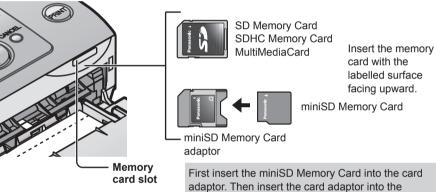
Do not change the paper size during operations. Otherwise, printing will be impossible.

Performing the procedures in "Preparation" (pp. 12 – 18)

2 Inserting a memory card

This printer supports SD Memory Card, SDHC Memory Card, MultiMediaCard, and miniSD Memory Card (adaptor required). SD Memory Card, SDHC Memory Card, MultiMediaCard, miniSD Memory Card, and miniSD Memory Card adaptor are not provided with the printer.

Insert the memory card.



memory card slot.

· To remove the card, push the card in and release.

Important •

- Push the memory card all the way in until it clicks into place.
- Do not remove the memory card when displaying images stored on the memory card on the LCD monitor.
- To print from a PictBridge compatible device, such as a digital camera, connected directly to the printer, insert the memory card into the device.

Note •

- This printer may not operate with some SD Memory Cards or SDHC Memory Cards. For example, SD Memory Cards with more than 2 GB in memory are not supported.
- Image formats that can be displayed/printed
 This printer is able to display and print JPEG and TIFF format images. However, there are
 cases when these format images cannot be displayed or printed. No image will be displayed
 in this case. For details, refer to "Specifications" on page 70.



3

Turning the power on

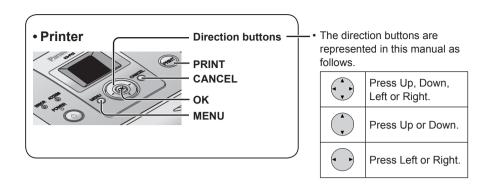
Press the POWER button. POWER lamp on the printer will light up in green.

Printer ACCESS lamp

POWER buttor

• Turning off the power

Press the POWER button for approximately 1 second. The POWER lamp goes out.



Changing the language

You can change the language used for the setting screen.

Press (MENU).

3

Press to select [Settings] and press OK (OK).

Press to select [Language] and press OK (OK).

Press to select the language to be used and press OK (OK).









Press to select [OK] and press OK (OK).



To cancel changes

CANCEL Press (CANCEL).

Printing single image

Press to select the image you want to print.



Press (PRINT).

Press (PRINT).

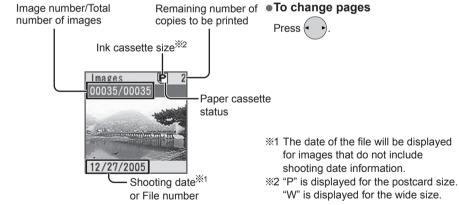
Printing begins.

If you press (CANCEL), the display will return to the "Image View".

• For details on print settings, refer to page 28.



Image display



Note

- It may take some time until the images are displayed depending on the type of memory card and image format.
- Depending on the type of the memory card used, the image may appear flickered on the LCD monitor or white bands may appear around the image. This has no effect on the printed image.



Printing multiple images

Press () to select the image you want to print.



Press (to set the number of copies.

- The number of copies will increase one by one each time you press (
- The number of copies will decrease one by one each time you press (
- Up to 10 copies can be set for each image.





 To cancel all settings regarding number of copies

- 1 Press (CANCEL).
- (2) Press () to select [Yes] and press (OK (OK).



Repeat steps 1 and 2 to specify the number of copies for images you want to print.

Up to 99 sheets can be printed by one operation.

Press (PRINT).

Press (PRINT).

- Printing begins.
 - CANCEL
- If you press (CANCEL), the display will return to the "Image View".
- For details on print settings, refer to page 28.

●To stop print job midway

① Press CANCEL (CANCEL).

② Press to select [Yes] and press OK (OK).

 The printing for the paper currently being printed will be completed and subsequent printing is halted.







Printing with various print settings

You can change a variety of settings to print images with date information, and borders, as well as adjust brightness and contrast. You can also use LUMIX Travel Date and Baby mode.

Before operation

When printing images using LUMIX Travel Date and Baby mode with a Panasonic LUMIX digital camera, insert a memory card containing the images for which information has been recorded with LUMIX Travel Date and Baby mode.

Press to select the image you want to print.



2 Press PRINT).

Press to select the item to be changed and press (OK) (OK).

• For details on [Date], refer to page 29.

- For details on [Borders], refer to page 29.
- For details on [Scene], refer to page 30.
- For details on [LUMIX], refer to page 31.

Press to select the desired option and press OK (OK).

Start Printing
Date OFF
Borders OFF
Scene AUTO
LUMIX OFF

· Example: Date



Press (PRINT).

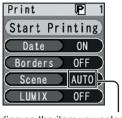
- · Printing begins.
 - CANCEL
- If you press (CANCEL), the display will return to the "Image View".
 (The changes for the print settings are cancelled.)

To stop print job midway

1 Press CANCEL (CANCEL).

2 Press to select [Yes] and press OK (OK).

 The printing for the paper currently being printed will be completed and subsequent printing is halted.



Depending on the item you select under [Scene], AUTO, ON, or OFF will be displayed. (137 p. 30).



Print setting items

Date

5

You can print image date information (including the shooting date) on the lower right corner of the image.

Print date format can be changed if you alter the settings under [Date] on [Settings]
 (p. 37, 38).



Borders

You can select whether to print images with borders or not.





With borders



Whole part of the image is printed on the paper with margins on the paper edges.

Borderless



Part of the image is cut off and there is no margin spacing on the paper edges.

Scene

Automatically adjusts the brightness and contrast.

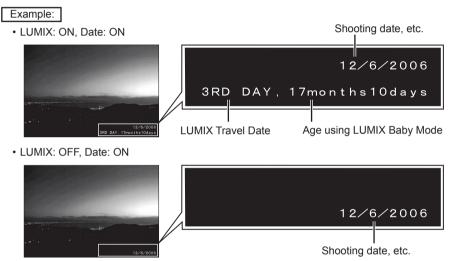


Scene	Item	Result
AUTO	Auto	Adjusts image brightness/contrast automatically.
ON	Soft Skin Adjusts image brightness/contrast to make skin appear smoother.	
	Night Scenery	Adjusts image brightness/contrast to print night scenery with a more natural balance between dark and light positions.
	Indoor	Adjusts image brightness/contrast to give darker images brighter exposure.
	Vividness	Adjusts image brightness/contrast to print more vividly.
OFF	OFF	No brightness/contrast adjustment.

LUMIX

If date and age information has been recorded for images using LUMIX Travel Date and Baby mode with a Panasonic LUMIX digital camera, they are printed in the lower right corner of the image.





Note

- The above settings are saved when the power is turned off normally by pressing the POWER button.
- Factory setting for [Date], [Borders] and [LUMIX] are [OFF], and [Scene] is [Auto].
- Date, LUMIX Travel Date, and age using LUMIX Baby mode are not displayed on the LCD monitor.
- You cannot print date for images with no date information stored on a memory card.
- The date information printed for images edited and saved on a computer will differ from the actual image shooting date.
- For details on settings available in LUMIX Travel Date and Baby mode, refer to the operating instructions provided with the Panasonic LUMIX digital camera.
- If the date has already been added on the image by a digital camera, etc., the date may be
 printed twice (doubled) when you set [Date] and/or [LUMIX] (pg p. 28 31) to [ON].
 Set [Date] and [LUMIX] to [OFF] in order to print only the date added by a digital camera,
 etc.

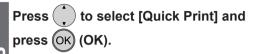


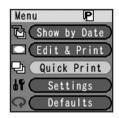
Printing all images on a memory card

You can print all images on a memory card, one image per sheet.

 You cannot proceed this operation if you set the number of copies for individual images beforehand (12) p. 26).







Press to select [All] and press OK (OK).





- · Printing begins.
- To return to the "Menu" screen, press (MENU).
- For details on print settings, refer to page 28.

To stop print job midway

(1) Press (CANCEL).

② Press to select [Yes] and press OK

(OK).

 The printing for the paper currently being printed will be completed and subsequent printing is halted.



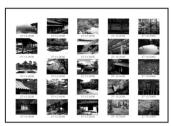


Note

Printing an index

You can print an index of images on the memory card, showing 25 thumbnail images per sheet of paper (30 thumbnail images when using wide size paper).

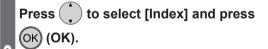
• You cannot proceed this operation if you set the number of copies for individual images beforehand (property p. 26).



Index print



Press to select [Quick Print] and press OK (OK).









Press (PRINT).

· Printing begins.

(OK).

- Printing will be made in the order of date from oldest to newest.
- To return to the "Menu" screen, press (MENU).



■To stop print job midway

1 Press (CANCEL).

② Press to select [Yes] and press OK

 The printing for the paper currently being printed will be completed and subsequent printing is halted.



Note

- · Each image is printed as one thumbnail on an index.
- You cannot set the number of copies for index.
- The paper size cannot be changed after completing step 3. Otherwise, printing will be impossible.

Printing using DPOF settings

You can select the images to be printed and the number of copies to be made using a DPOF compatible digital video camera or digital camera. When you have inserted a memory card containing DPOF settings into the printer, you can print images according to the setting.

• You cannot proceed this operation if you set the number of copies for individual images beforehand (1287 p. 26).

Before operation

Insert the memory card containing images with DPOF settings into the printer (property p. 21).

Press (MENU).

Press to select [Quick Print] and press (OK) (OK).

Show by Date

Edit & Print

Quick Print

Settings

Defaults

Press to select [DPOF] and press OK (OK).



Press (PRINT).

Printing begins.

 Images are printed using the settings (number of copies, date etc.) specified in the camera or DPOF compatible software.





To stop print job midway

 $\text{ (1) Press } \overset{\text{CANCEL}}{\bigodot} \text{ (CANCEL)}.$

2 Press to select [Yes] and press OK (OK).

 The printing for the paper currently being printed will be completed and subsequent printing is halted.



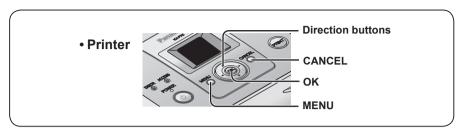
Noto

- Changes made to Print settings are not applicable when printing DPOF images.
- You cannot apply DPOF settings to images using this printer.
- Up to 10 copies per image can be printed when using DPOF printing.
- You cannot perform this operation when the total number of copies to be printed with DPOF settings exceeds 999.
- DPOF is an abbreviation for Digital Print Order Format. You can add print information, etc. to images stored on memory cards by using digital video cameras and digital cameras and use that information in other DPOF compatible devices.
- The paper size cannot be changed after completing step 3. Otherwise, printing will be impossible.

Device Settings



You can change the print date format, language used for the setting screen, automatic LCD monitor OFF, and image information format.



1 Press O (MENU).

3

Press to select [Settings] and press OK (OK).

Press to select the item to be changed and press (OK) (OK).

Press to select the desired option on the option select screen and press (OK).

· For details on [Settings], refer to page 38.



· Example: Date





Device Settings (continued)



Press to select [OK] and press OK (OK).



To cancel changes

Press (CANCEL).

Item	Description	Setting options (Bold item indicates initial setting)
Date	Specifies print date format as year (Y), month (M) and day (D).	Y/M/D D/M/Y M/D/Y
Language	Changes the display language.	Deutsch (German) English Español (Spanish) Français (French) Franç. (Canada) (Canadian French) Italiano (Italian) Japanese
Sleep ^{%1}	The LCD monitor is automatically turned off a few seconds after the screen saver is displayed, if the printer has not been used for the time selected. Press any button to resume operations. **2	5min 10min 60min
Display by ³	Selects image information format (Date, File number)	Date File (File Number)

X1 The POWER lamp blinks in green when the sleep mode is on.

^{*2} To resume with the POWER button, press the POWER button for approximately 1 second.

^{%3} The information displayed is below

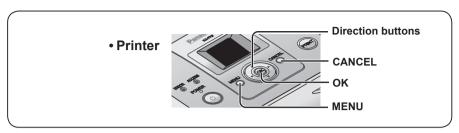
Date: Displays image date information (including the shooting date information etc.).
 The date of the file will be displayed if images do not include shooting date information.

[·] File Number: Displays file number of image complied with DCF.

Restoring Default Settings



Performing this operation initializes all settings to the default values (factory settings).



- Press (MENU).
 - Press to select [Defaults] and press OK (OK).

Press to select [Yes] and press OK) (OK).

 For details on those settings which will be initialized and the factory settings, refer to page 71.

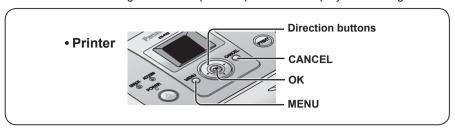




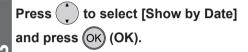
Searching for Images

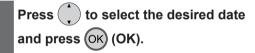


You can search for images within a specified period and display these images.

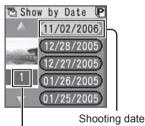












Indicates the number of images that are taken on the selected date.



Note

The date information printed for images edited and saved on a computer may differ from the actual image shooting date.

Specifiable range from 1980 January 1 to 2107 December 31.

Creating Calendars

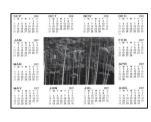


You can create original calendars with your favorite images.

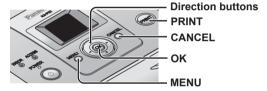
Do not change the paper size during operations. Otherwise, printing will be impossible.

 You cannot proceed this operation if you set the number of copies for individual images beforehand (regretary p. 26).









1

Select image.

1 Press MENU).

Press to select [Edit & Print] and press OK (OK).

Press to select [Calendar] and press OK (OK).





Creating Calendars (continued)



Press () to select the desired image and press (OK) (OK).



2 Select calendar.

Press • • to select the desired calendar and press (OK) (OK).



Press () to reduce/enlarge/rotate the image using (), then press (OK) (OK).



- (CANCEL) to cancel your edited image.
- · For details of button functions, refer to the table below.

Button functions when changing zoom/rotate

Button	Function (Reduce/Enlarge/Rotate)	Function (Move)
	Reduces the image. (Can be reduced up to 20 %)	Moves the image downward.
	Enlarges the image. (Can be enlarged up to 500 %)	Moves the image upward.
•	Each time you press this button, the image rotates 90° clockwise.	Moves the image rightward.
	Each time you press this button, the image rotates 90° counterclockwise.	Moves the image leftward.

Press •) to move the image using (OK), then press (OK) (OK).

6

Press (OK) (OK).

- Press (CANCEL) to cancel your edited image.
- · For details of button functions, refer to page 42.

Move



Press () to select the item to specify the starting year, month, and day of the week, and then press (OK) (OK).

· Example: Year



Press () to select the desired option and press (OK) (OK).



Press () to select [OK] and press (OK) (**OK**).



Creating Calendars (continued)



3_{Print}

Press to set the number of copies.

- The number of copies will increase one by one each time you press
- The number of copies will decrease one by one each time you press .
- · Up to 10 copies can be set for each image.



Press (PRINT).

- Printing begins.
- To stop print job midway

① Press CANCEL (CANCEL).

2 Press to select [Yes] and press OK

(OK).

 The printing for the paper currently being printed will be completed and subsequent printing is halted.





After printing



To return to the "Menu" screen

Press MENU (MENU).

Note

- The preview is not exact print image. Actual printouts may differ from the preview.
- · When enlarging an image, the image quality will deteriorate.

Composite Printing

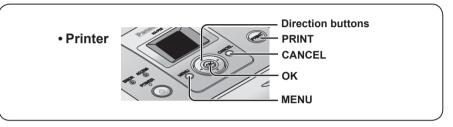


You can create composite images by adding a frame.

Do not change the paper size during operations. Otherwise, printing will be impossible.

• You cannot proceed this operation if you set the number of copies for individual images beforehand (1887 p. 26).





1

Select image.

1 Press O (MENU).

Press to select [Edit & Print] and press OK (OK).

Press to select [Frame] and press OK (OK).





Composite Printing (continued)



Press • • to select the desired image and press (OK) (OK).



2 Select frame.

Press • to select the desired frame and press (OK) (OK).



Press () to reduce/enlarge/rotate the image using (), then press (OK) (OK).



- Press (CANCEL) to cancel your edited
- · For details of button functions, refer to page 42.

Press () to move the image using , then press (OK) (OK).



For details of button functions, refer to page 42.



Press (OK) (OK).



3 $_{\scriptscriptstyle \sf Print.}$

Press to set the number of copies.

• The number of copies will increase one by one each time you press (*).

• The number of copies will decrease one by one each time you press

• Up to 10 copies can be set for each image.



Press (PRINT).

· Printing begins.

To stop print job midway

① Press CANCEL (CANCEL).

② Press () to select [Yes] and press (OK

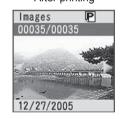
(OK).

 The printing for the paper currently being printed will be completed and subsequent printing is halted.

During printing



After printing



To return to the "Menu" screen

Press (MENU).

Note

- The preview is not exact print image. Actual printouts may differ from the preview.
- · When enlarging an image, the image quality will deteriorate.

Printing Effects

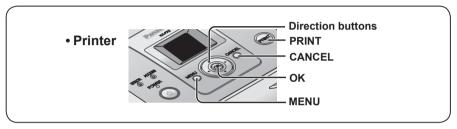


You can create composite images by adding special effects.

Do not change the paper size during operations. Otherwise, printing will be impossible.

• You cannot proceed this operation if you set the number of copies for individual images beforehand (property p. 26).





 $oldsymbol{1}$ Select image.

Press (MENU).

Press to select [Edit & Print] and press OK (OK).



Press to select [Effect] and press (OK) (OK).



Press to select the desired image and press OK (OK).



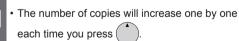
2 Select effect.

Press to select the desired effect and press OK (OK).



$\mathcal{F}_{\mathsf{Print}}$

Press to set the number of copies.



- The number of copies will decrease one by one each time you press .
- Up to 10 copies can be set for each image.



Printing Effects (continued)



Press (PRINT).

· Printing begins.

●To stop print job midway

1 Press CANCEL (CANCEL).

② Press () to select [Yes] and press (OK

(OK).

 The printing for the paper currently being printed will be completed and subsequent printing is halted. **During printing**



After printing



To return to the "Menu" screen

Press MENU (MENU).

Effect items

Item	Result
Sepia	Prints images with a sepia effect.
Oil Painting	Prints images so they resemble oil paintings on canvas.
Japanese Paper	Prints images as if drawn on Japanese paper.
Sharpness	Prints images so they appear sharp.
Convex Sphere	Prints images so they appear convex.
Monochrome	Prints images with a monochrome effect.



Example: Oil Painting

Note

The preview is not exact print image. Actual printouts may differ from the preview.

Printing with a Computer



You can perform printing operation on a computer.

After installing the printer driver (\mathbb{R} p. 52 – 55), perform print operations using image printing software.

Ensure that your computer's configuration is compatible for use with this printer (1239 table below).

Download the latest printer driver from the website

(http://panasonic.co.jp/pcc/cs/en/telecom/printer/download.htm).

System requirements

Computer	IBM® PC/AT® compatible
CPU	Intel® Pentium® II processor or Celeron® 500 MHz or higher
os	Microsoft® Windows® 98 Second Edition ^{*1} Microsoft® Windows® Me ^{*2} Microsoft® Windows® 2000 Professional ^{*3} Microsoft® Windows® XP Home Edition/Professional ^{*4}
Memory	Windows Me/Windows 98 SE: 64 MB or above (128 MB minimum recommended) Windows XP/Windows 2000: 128 MB or above (256 MB minimum recommended)
Required Hard Disk Space	120 MB minimum
Display	High Color (16 bit) or higher Desktop area 800 x 600 pixels or higher
Interface	USB port
Disc Drive	CD-ROM drive (required for installation)
Other	Mouse or equivalent device

- Operation is not necessarily guaranteed with the above environments.
- Operation is not guaranteed on Macintosh® Computers.
- Operation is not guaranteed on Windows 3.1, Windows 95, Windows 98 or Windows NT® environments.
- Operation is not guaranteed with operating system upgrades.
- Not compatible with multi-CPU configured environments.
- · Compatible with Windows XP SP1 or SP2 environments.
- ※1 Microsoft® Windows® 98 Second Edition operating system (hereafter Windows 98 SE)
- ※2 Microsoft® Windows® Me operating system (hereafter Windows Me)
- »3 Microsoft® Windows® 2000 Professional operating system (hereafter Windows 2000)
- ¾4 Microsoft® Windows® XP Home Edition/Professional operating system (hereafter Windows XP)

Important

- Do not play the supplied CD-ROM on an audio CD player. Doing so may emit loud sound resulting in damage to the speaker.
- Do not connect more than 2 Panasonic home photo printers to a computer.

Printing with a Computer (continued)



Installing the printer driver

To print from the computer, you must first install the printer driver to your computer as follows. For details on printer driver operations, see the printer driver's help.

- Do not connect the printer to a computer before installing the printer driver. Also, be sure to turn off the printer's power before making connections.
- When the "Found New Hardware Wizard" screen appears during the installation, click [Cancel] on the screen.
- · Quit all other active applications.
- Once you have installed the printer driver, do not shut down or log off your computer while printing is in process. Doing so prevents the printer from printing properly.
- To insure against data loss or deletion of any data, ensure that you make a backup copy of the software contained on the CD-ROM.
- For Windows XP and Windows 2000, log on as system administrator or have a similar level of authorization to install the printer driver.

The following descriptions are intended for Windows XP.

The displayed messages and procedures may vary slightly depending on the OS.

Start the computer and insert the supplied CD-ROM.

· The menu screen is displayed.

• If the menu screen is not displayed...

- 1. Open [My Computer].
- 2. Open the CD-ROM drive and double-click [Setup.exe] on the CD-ROM.

Click [KX-PX2 Printer Driver] on the menu screen.



9

3

Δ

6

Panasonic KX-DYX Printer Driver - InstallShield Wizard Choose Setup Language Select feel language for the installation from the choices below. Frontier Canadian French Canadian Indian Resisten Spenish Canadian Resisten Spenish

Click [Next].

 When the screen displaying the message "Before setup, make sure the printer is off." appears, click [OK].



Read the License Agreement (138 p. 57) carefully.

Select ① [I accept the terms of the license agreement] and click ② [Next].

 If you do not agree to the conditions of the license agreement, click [Cancel]. The installation process will be discontinued.



Click [Install].



Printing with a Computer (continued)



Connect the printer to the computer with the USB cable when "Connect the printer and switch it on." screen is displayed.

Then turn the printer on.

(**I** 🍞 p. 55)

 If "Printer not found. Check the connection." screen is displayed
 Make sure that the USB cable is connected properly and the printer is turned on, and then click [Retry].

Click [Finish].





The installation process has completed.

Connecting with a personal computer

Computer To USB port (Type A) USB cable (Use a commercially available USB cable.)

Warning:

To assure continued emission limit compliance, use only shielded USB cable (2 m (6.5') or less in length).

Uninstalling the printer driver

Use uninstall if you want to delete the printer driver. Disconnect the USB cable before uninstalling the printer driver. Quit all other active applications.

- Select [Start] → [All Programs (Programs)] → [Panasonic] → [Panasonic KX-PX2] and then click [Uninstall].
- ② Click [Yes] when "Do you want to completely remove the selected application and all of its features?" screen appears.
- 3 Select [Yes, I want to restart my computer now.] and click [Finish].
- · After the computer has restarted, the driver is uninstalled.

Note

- Operation is not guaranteed when printing over a network.
- Operation is not guaranteed when the printer is connected via a USB hub.

Printing with a Computer (continued)



Printing from the computer

Use the application software installed on your computer to print images from the computer. Refer to the application software's operating instructions for details on the printing operation.

Open the image file to be printed using the application software.

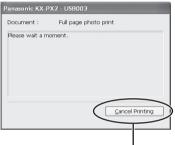
Print the image file.

- Make sure that printer paper size setting on the application software matches the size of the paper and ink cassette in the printer. If the different size paper is selected on the application software, printing will become impossible.
- A status monitor window (regressed below) is displayed during printing.

Status monitor

When attempting to print from application software, a status monitor showing the progress of the current print job will be displayed. The status monitor will not be displayed under the following conditions:

- When you have selected a different printer
 ⇒Select this printer.
- When there are still previously initiated active print jobs remaining in the print queue
 - ⇒Delete any unwanted print jobs.



Click this button when you want to stop printing.

Deleting unwanted print jobs

- · For Windows XP:
 - Select [Start] \rightarrow [Control Panel] \rightarrow [Printers and Other Hardware] \rightarrow [Printers and Faxes] and then double-click the icon for this printer. Select the unwanted print jobs and press the Delete key.
- For Windows 2000/Me/98 SE: Select [Start] → [Settings] → [Printers] and then double-click the icon for this printer. Select the unwanted print jobs and press the Delete key.

Important

Do not shut down or log off your computer while printing is in process. Doing so prevents the printer from printing properly.

License agreement

Please read the following license agreement carefully.

End-User License Agreement

THIS IS A LEGAL AGREEMENT BETWEEN YOU AND PANASONIC COMMUNICATIONS CO., LTD. ("PANASONIC") WITH RESPECT TO THE SOFTWARE PROGRAM ("SOFTWARE"). CAREFULLY READ ALL THE TERMS AND CONDITIONS OF THIS AGREEMENT PRIOR TO INSTALLING THE SOFTWARE. INSTALLING THE SOFTWARE INDICATES YOUR ACCEPTANCE OF THESE TERMS AND CONDITIONS. If you do not agree to these terms and conditions, do not install the SOFTWARE.

1. COPYRIGHT:

The SOFTWARE is protected by copyright laws and international treaty provisions, and all other applicable laws. You acknowledge that you are receiving only a LIMITED LICENSE TO USE the SOFTWARE and related documentation, and that you shall obtain no title, ownership nor any other rights in or to the SOFTWARE and its related documentation, all of which title and rights shall remain with PANASONIC or its licensor.

2. LICENSE:

- (1) You may use the SOFTWARE solely for the purpose of operation of your Panasonic Printer which is compatible with the SOFTWARE.
- (2) You may make a copy of the SOFTWARE for the use defined in subparagraph (1) above, or for internal back-up purpose only.
- (3) You may transfer your rights under this License Agreement on a permanent basis, provided that you transfer this Agreement, all copies of the SOFTWARE, all related documentation and your Panasonic Printer, and the recipient thereof agrees to the terms of this Agreement.

3. RESTRICTIONS:

You may not reverse engineer, decompile or disassemble the SOFTWARE, except as expressly permitted by applicable laws. You may not use, copy, modify, alter, rent, lease or transfer the SOFTWARE, its related documentation, or any copies thereof, in whole or in part, except as expressly provided in this Agreement. You may not export the SOFTWARE in contravention of any applicable U.S. or foreign export laws and regulations.

4. TERM:

This license is effective until terminated. You may terminate this Agreement at any time by destroying the SOFTWARE and related documentation and all copies thereof. This license will be terminated if you fail to comply with any term or condition of this Agreement. Upon such termination, you agree to destroy the SOFTWARE, all copies thereof and related documentation.

5. LIMITATION OF LIABILITY:

THE SOFTWARE IS PROVIDED "AS IS" WITHOUT ANY WARRANTY. PANASONIC (INCLUDING MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD. AND ITS AFFILIATE COMPANIES, IN THIS ARTICLE) DOES NOT MAKE OR PASS ON TO YOU OR OTHER THIRD PARTY, ANY WARRANTY OR REPRESENTATION INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. WITHOUT LIMITING THE GENERALITY OF THE FOREGOING, PANASONIC DOES NOT WARRANT THAT THE SOFTWARE WILL BE ERROR-FREE OR THAT IT WILL MEET YOUR REQUIREMENTS. PANASONIC SHALL NOT BE LIABLE FOR ANY DAMAGE SUFFERED BY YOU INCLUDING, BUT NOT LIMITED TO, CONSEQUENTIAL, INCIDENTAL, SPECIAL OR PUNITIVE DAMAGES, EVEN IF PANASONIC HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. NOTWITHSTANDING THE FOREGOING, IF THE TERMS AND CONDITIONS HEREOF CONTRADICT THE LAWS OF THE JURISDICTION IN WHICH YOU LIVE, THIS LICENSE AGREEMENT SHALL BE MODIFIED TO THE EXTENT SUCH LAWS REQUIRE.

If a Paper Jam Occurs

The error message "Paper is jammed." is displayed on the status monitor of the computer screen.

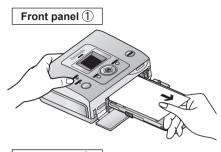
Turn off the printer's power once and turn it back on again with both the paper cassette and ink cassette still inserted.

 Jammed paper will be ejected from the front panel ① or the rear panel ②. (Paper may be ejected from both the front panel ① and the rear panel ②.)

Remove the paper from the front panel ① or rear panel ②.

Remove the ink cassette to verify that there is no more paper lodged inside the printer.

Replace the ink cassette.

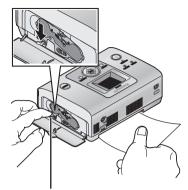




If paper is not ejected

Turn off the power and remove the paper cassette.

Remove the paper from either the front panel ① (12 p. 58) or the rear panel ② (12 p. 58) while pressing down on the paper jam removal lever.



Paper jam removal lever

Important · · ·

If the paper has stopped moving and no error message appears, wait for a while, leaving the paper as it is. When the atmospheric temperature is high or when continuous printing has been performed, printing operations may temporarily halt in order to keep the internal temperature of the printer from rising. Printing will automatically resume when the internal temperature of the printer goes down.

Note

When printing from a computer, printing sometimes continues after jammed paper is removed.

LED Indicators

The operational and error status of the printer is displayed using a combination of lit and blinking LED indicators. Messages can be displayed on the LCD monitor and the status monitor of the computer screen (pp. 67, 68).

When operations are normal

Status	POWER lamp	ERROR lamp	ACCESS lamp	PRINT lamp
Power is on	Lit (Green)			0
The LCD monitor is sleeping.	Blink (Green)			0
Loading image	Lit (Green)		Lit/Blink (Green)	0
Printing	Lit (Green)			Blink (Green)
Waiting to print ³ (when temperature is too high or too low)	Lit (Green)			Lit (Green)
Connecting to or disconnecting from a PictBridge compatible device.	Lit (Green)		Lit/Blink (Green)	0

^{**1} When temperature is too high or too low, the printer will temporarily enter Waiting mode (128° p. 9).

When an error occurs (For details, refer to page 67, 68.)

Status	POWER lamp	ERROR lamp	ACCESS lamp	PRINT lamp
Paper/ink error	Lit (Green)	Lit (Red)		○ **2
Paper jam	Lit (Green)	Blink (Red)		0
Internal printer error	Blink (Green)	Blink (Red)		0
Connecting to a device incompatible with PictBridge.	Lit (Green)	Blink (Red)		0

X2 Sometimes the PRINT lamp blinks or lights up during printing.

Troubleshooting

Follow the procedures described below. If you are not able to solve the problem, contact your dealer.

Power source

Problem	Cause and Remedy	Page
The power is not on.	Are the power cord and AC adaptor connected correctly? ⇒Connect the power cord and AC adaptor correctly.	18
The power is not off.	Press the POWER button for approximately 1 second. When the printer is in sleep mode or when the screen saver is displayed on the LCD monitor, the power is not turned off, even if the POWER button has been pressed. ⇒Now that sleep mode is off, press the POWER button again for approximately 1 second.	38

LCD monitor

Problem	Cause and Remedy	Page
The LCD monitor is turned off although the printer is turned on.	The LCD monitor is automatically turned off if the printer has not been used for the time selected under [Sleep] on [Settings]. ⇒Press any button to resume operations. ^{※1}	38
Some pixels are inactive or always lit on the LCD monitor.	This is not a malfunction. These pixels do not affect printing.	10
Noise appears on the LCD monitor.	In dark places, noise may appear to maintain the brightness of the LCD monitor. This does not affect printing.	_

^{*1} To resume with the POWER button, press the POWER button for approximately 1 second.

Troubleshooting (continued)

Printing Camera Printer Printer

Problem	Cause and Remedy	Page
The ink cassette cannot be inserted.	When attaching the ink cassette, if it does not catch in place when inserted, manually rotate the ink sheet reel slightly as described below and try again. Ink sheet Make sure that the side of the ink cassette with an arrow symbol is facing upward. Rotate the reel on this side approximately 90 degrees in the direction of the arrow and allow the ink sheet to slacken slightly. Rotate the reel on the other side in the direction of the arrow to take up the slack of the ink sheet.	
Not able to print. Blank paper comes	Have you inserted the ink cassette as far as it will go? Insert the ink cassette all the way in.	16
out.	Does the ink sheet have slack?	10
	⇒Flatten out the ink sheet.	16
	Have you inserted the paper cassette as far as it will go? Insert the paper cassette all the way in.	15
	Does the size of paper and ink cassette match? ⇒Make sure that the paper and ink cassette sizes match.	12
	Have you been printing continuously or printing when the room temperature is high?	
	 ⇒Printing operations may temporarily halt in order to keep the internal temperature of the printer from rising. The PRINT lamp will change to lit status at this time. This is not a malfunction. Please wait until the internal temperature of the printer goes down. Has the ink in the ink cassette run out? 	9 60
Dulation times in	⇒Replace the ink cassette.	16
Printing time is unusually long.	 Printing will require additional time when printing more than 2 sheets in succession or when the surrounding temperature is high. 	9
There is a noise during printing.	The printer makes noise when the ink and paper are being fed out during printing. This is normal.	

Problem	Cause and Remedy	Page
Not able to proceed the print operation.	If you set the number of copies for individual images beforehand, you cannot proceed printing all images, printing an index, printing using DPOF settings, creating calendars, composite printing or printing with effects. ⇒Cancel the number of copies you have set for all images.	_
 Unsatisfactory print quality Horizontal lines	Are you using different paper than that which is indicated? ⇒Insert the paper exclusive for this printer.	12
appear across the printed image.	 Does the ink sheet have slack? ⇒Flatten out the ink sheet. Have you inserted the paper with the wrong side facing 	16
	up? ⇒Make sure that you insert the paper with the print side	14
	 (glossy surface) facing up. Print quality may be poor if there is condensation^{※2} due to a difference in temperatures. ⇒Wait for approximately 2 hours from the time the printer's power was turned on before attempting to resume printing. 	63
	• Are the thermal heads dirty? ⇒Clean the thermal heads ³ .	64
Paper jams occur frequently. Paper does not	Have you loaded more than 18 sheets of paper (or more than 20 sheets of wide size paper) in the paper cassette?	
feed.	⇒Reduce the number of sheets. • Have you inserted curled paper?	14
	 ⇒Do not use curled paper. Is the feeding stop adjusted according to the paper size you want to use? 	_
	⇒Adjust the feeding stop.	14
Part of the printed image is cut off.	 Have you used application software to enlarge the image beyond the printing range of this printer? ⇒Reduce the image size so that it fits within the printer's printing range. Is [Borders] of the digital camera or printer driver^{¾4} set to [OFF]? ⇒Select [ON] under [Borders]. 	
There is an unexpected margin on the printed images.	Is [Borders] of the digital camera or printer driver ^¾ set to [ON]? ⇒Select [OFF] under [Borders].	_

***2 Condensation**

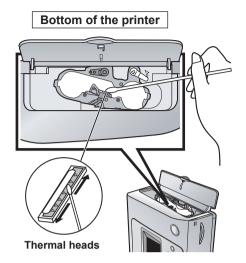
Water droplets will form after a bottle has been removed from a refrigerator during the summer season or in a warm environment. This formation of water droplets is called condensation. Condensation that forms on printed paper and the printer roller and that has not yet dried may cause smudging on the printed image.

Troubleshooting (continued)

%3 Cleaning thermal heads

If photo images are marred by horizontal lines and you are not able to print high-quality photo images, use a commercially available cotton swab, approximately 15 cm (6") in length, to clean the full length of the thermal heads in the ink cassette slot.

- Do not clean the thermal heads immediately after printing.
- Disconnect the power cord and remove the ink cassette before cleaning the thermal heads.
- Do not insert your fingers in the ink cassette slot while cleaning the thermal heads as this may lead to injury.



%4 Printer driver

For operation details, see the help on the supplied CD-ROM.



Problem	Cause and Remedy	Page
The brightness and color tones of the preview image on the LCD monitor is different from the ones of the printed pictures.	The preview image is not exact print image, just for your reference. Therefore, there may be some differences in the quality of the image on the LCD and the printed image. This is not a malfunction.	_
The screen saver is shown on the LCD monitor.	This screen saver is displayed if the printer has not been used for the time selected under [Sleep] on [Settings]. The screen saver is cleared by pressing any button. The LCD monitor is automatically turned off a few seconds after this screen saver is displayed.	

Problem	Cause and Remedy	Page
 Printer does not operate when the button is pressed. The menu is not displayed even when the MENU button is pressed. 	Has the printer unit become hot? ⇒If the inside of the unit becomes hot, buttons may stop functioning and the printer may stop midway through printing. If this happens, the PRINT lamp will light. This is not a malfunction. Please wait for the temperature to go down.	9 60
No image is displayed.	 Have you inserted the memory card correctly? ⇒Insert the memory card correctly. Have you inserted a memory card that is not compatible with this printer? ⇒Check that the format of the memory card is compatible with the printer. 	21 70
It takes considerable time for the image to be displayed.	It may take some time until the image is displayed, depending on the image format or size of the image. This is not a malfunction.	_
It takes considerable time for the initial screen to be displayed.	Do you have many images stored on the memory card? ⇒ It may take some time until the image is displayed. This is not a malfunction.	_
The image is distorted.	Is the printer located close to any devices that may be emitting electric waves or magnetic waves? ⇒Make sure the printer is not set close to any game devices, stereo speakers or large format monitors, etc.	9

Troubleshooting (continued)

Printing PC Printer

Problem	Cause and Remedy	Page
 Don't know how to stop the printing process when printing from a computer. Printing has started after starting the computer. 	Click [Cancel Printing] on the status monitor. Select [Start] → [Printers and Faxes] (or [Start] → [Settings] → [Printers]) and then double-click the icon for this printer. Then select [Printer] → [Cancel All Documents] (or [Purge Print Documents]).	56 —
 Cannot start printing from the computer. ERROR lamp on the printer is lit or blinking when printing from the computer. 	Check the information displayed on the status monitor.	56 67 68
The printed image has poor tone balance.	You can adjust the image quality on the [Image Adjustment] tab of the printer driver ^{¾4} .	_
 The printed image is too bright. There is too much image noise in the dark areas of the printed image. 	Changing [Auto Mode] setting to [OFF] on the [Image Adjustment] tab of the printer driver ^{¾4} may improve these problems.	
A message indicating "The USB port cannot be located" is displayed on the computer.	Have you connect the printer to USB port that supports printers? ⇒USB ports are displayed as [USB001] and [USB002]. Check the USB port configuration. Checking method * For Windows XP Select [Start] → [Control Panel] → [Printers and Other Hardware] → [Printers and Faxes] and open [Properties] window for this printer. Select USB ports on [Ports] tab. * For Windows 2000 Select [Start] → [Settings] → [Printers] and open [Properties] window for this printer. Select USB ports on [Ports] tab. * For Windows 98 SE/Me Select [Start] → [Settings] → [Printers] and open [Properties] window for this printer. Select USB ports on [Printers] window for this printer. Select USB ports on [Printers] window for this printer. Select USB ports on [Print to the following port] on [Details] tab.	_

%4 Printer driver

For operation details, see the help on the supplied CD-ROM.

Message Display

Paper cassette and ink cassette related messages

LED indicators

POWER lamp	ERROR lamp	ACCESS lamp	PRINT lamp
Lit (Green)	Lit (Red)		O **1

X1 Sometimes the PRINT lamp blinks or lights up during printing.

Messages

Message	Remedy	Page
Load a new ink cassette. (U02/U03/U04)	Replace with a new ink cassette as ink has run out.	16
Load the ink cassette. (U10/U12/U13/U14/U1A/ U1B/U1C/U43/U44/U45)	Insert the ink cassette.Insert the ink cassette of correct size.	16 12
Load paper. (UA0/UA1/UA2)	Load paper into the paper cassette.	14
Load the paper cassette. (U27/UA3/UA4/UA5)	Insert the paper cassette with paper.	14

Paper size error/Paper jam

LED indicators

POWER lamp	ERROR lamp	ACCESS lamp	PRINT lamp
Lit (Green)	Blink (Red)		0

Messages

Message	Remedy	Page
Paper is jammed. (U2E) A paper jam has occurred. (U28)	Remove the jammed paper.	58
Check the paper and the paper cassette. (UB0 – UBB/U62/U63)	Insert the paper cassette with paper. Paper is ejected from the front panel or rear panel of the printer. (Sometimes paper may be ejected from both.) Remove the paper. Then, remove the paper cassette once and re-insert. Make sure that the paper and ink cassette sizes match.	_

Message Display (continued)

Internal error

LED indicators

POWER lamp	ERROR lamp	ACCESS lamp	PRINT lamp
Blink (Green)	Blink (Red)		0

Messages

Message	Remedy	Page
An error has occurred. Unplug/replug the power cord, then repower the unit. (Fxx ²)	An internal hardware error has occurred. Unplug the AC adaptor from the power supply once, reconnect, and turn the unit on again. If the error has not cleared, please consult your dealer.	_

^{%2} Numbers and/or letters will appear in place of xx.

Others

• LED indicators: No special indication.

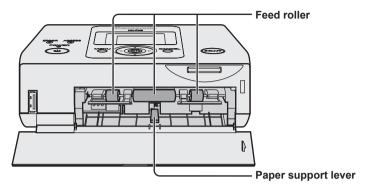
Messages

Message	Remedy	Page
Cannot print more than 999 images.	Up to 999 copies can be printed at once when printing all images or printing using DPOF settings. Select the images and set the total number of copies to 99 or less. Then print again.	26 32 35
The number of copies exceeded.	• Up to 99 copies can be printed at once. Select the images and set the total number of copies to 99 or less. Then print again.	26
Unable to display or print this image. (U3C) Unable to print. (U3E)	 The image you attempted to print has an unsupported format or is broken. Blank paper may come out instead of printed images. 	70
No card. (U35)	Insert a memory card.	21
Unable to use this card. (U36) Unable to read this card. (U39)	 You are using a memory card that is not compatible. Memory cards formatted by a computer may not be able to be used. Be sure to use memory cards formatted by a digital camera. 	70

Maintenance

When the feed roller and/or paper support lever are dirty

Clear prints may become impossible if the feed roller or paper support lever become dirty.



Wipe clean with a damp cloth that has been wrung thoroughly.

Wiping the printer surface

To clean the printer surface, wipe up any dust with a soft dry cloth. If the printer is particularly dirty, soak the cloth in kitchen detergent (neutral) diluted with water and wring the cloth out thoroughly. Then wipe off the dust with the cloth and wipe again with a dry cloth. When using a chemical cleaning cloth, follow the precautions outlined in the guideline instructions.

Air vents

If dust enters from the air vents, it can accumulate on the ink sheet compromising print quality.

As dust builds up, the printer's air vents can be blocked, which could hamper safe operation of the printer. (pp. 6, "Important Safety Instructions")

If this occurs, remove the ink cassette and clean the dust off the ink sheet using a vacuum cleaner

Specifications

I	AC adaptor Input voltage: 100 V to 240 V AC ±10 % 50/60 Hz Rated output: 24 V DC, 1.8 A
Consumption	During printing: Approx. 66 W When the power lamp is on: Approx. 4 W When the power lamp is off: 1 W or less
Printing System	Dye-Sublimation Thermal Transfer
i iiiiiiig opeca	Postcard size: Approx. 65 sec./sheet Wide size: Approx. 75 sec./sheet
	Cassette System (exclusive) (yellow, magenta, cyan and overcoat)
	Postcard size: 101 mm x 180 mm (3.98" x 7.09") (After cutting: 101 mm x 152 mm (3.98" x 5.98")) Wide size: 101 mm x 208 mm (3.98" x 8.19") (After cutting: 101 mm x 180 mm (3.98" x 7.09"))
Method (Automatic paper feed system (holds 18 sheets of postcard size paper, or 20 sheets of wide size paper)
Image Quality 2	256 levels/color
Printing 3 Resolution	300 x 300 dpi
Number of Images Displayable	Maximum of 20,000
Maximum Pixels of Image	6144 x 4096 pixels
Print Head	Thermal
-	PictBridge: PictBridge terminal (front panel: 1) For personal computer: USB port (Type B) (rear panel: 1)
Memory Card	SD Memory Card, SDHC Memory Card, MultiMediaCard, miniSD Memory Card (adaptor required) Image formats: • JPEG baseline (SD-Picture, DCF (Design rule for Camera File system), Exif, JFIF) • TIFF (uncompressed) (conforms with Baseline TIFF Rev. 6.0 RGB Full Color Images) You cannot print TIFF format images from PictBridge devices such as digital cameras.
LCD Monitor	1.5" STN LCD (Approx. 49,000 pixels) (Approx. 65,000 colors)

^{**1} This is the time required from the start of printing the yellow layer to the end of printing the overcoat. The printing speed given is approximate and may change depending on the temperature.

Allowable Temperature	Storage: -20 °C to 55 °C (-4 °F to 131 °F) Operation: 5 °C to 35 °C (41 °F to 95 °F)
Allowable Humidity	Storage: 0 % to 90 % Operation: 35 % to 80 %
External Dimensions	Approx. 173 (W) x 63.5 (H) x 132 (D) mm (Approx. 6.81" (W) x 2.50" (H) x 5.20" (D)) (excluding protruding parts)
Mass	Approx. 930 g (2.05 lbs) (main unit)

 This product conforms with the Design rule for Camera File system (DCF) and Exif2.21 (Exif Print) image format as defined by the Japan Electronics and Information Technology Industries Association (JEITA).

List of Factory Settings

It	em	Factory setting
	Date	OFF
Drint Cottings	Borders	OFF
Print Settings	Scene	Auto
	LUMIX	OFF
Calendar	Start Year/Month	2007. 1.
	Start Day	Sun (Sunday)
Effect	Effect	Sepia
Device Settings	Date	M/D/Y
	Language	English
	Sleep	5min
	Display by	Date

Note

- All changes to the settings shown above will be saved when the power is turned off normally by pressing the POWER button.
- Only those settings which have been used for the actual printing are saved.
- To restore factory default settings, refer to page 39.

Additional Information

■ Compatible Standards

Exif Printing

 This product conforms with the Exif2.21 (Exif Print) image format as defined by the Japan Electronics and Information Technology Industries Association (JEITA). (Using the digital camera's photo information helps provide an extremely high-quality image print.)

PictBridge

 This product conforms with the PictBridge (CIPA DC-001-2003) standard adopted by the Camera & Imaging Products Association (CIPA). (PictBridge is a standard that enables direct printing from a digital camera to the printer and is not limited to a specific manufacturer. Digital video cameras also adopt this standard.)

Energy Star

 As an ENERGY STAR® Partner, Panasonic has determined that this product meets the ENERGY STAR® guidelines for energy efficiency. ENERGY STAR is a U.S. registered mark.







■ Copyrights

 Prints of material other than the images and videos that you have made can be used for your personal enjoyment. Copyright laws prevent their use in any other way without the written permission of the copyright holders.

Disclaimer

 Panasonic makes no warranties for damages, whether directly or indirectly, resulting from corrupted or lost data due to power failures, etc.

Sudden drops in voltage

• This device may not operate properly in the event of a sudden drop in power voltage. Use of this printer with an uninterruptible AC power supply is recommended to ensure against any reduction in operational performance during a sudden drop in voltage.

■ Trademarks

 Microsoft, Windows and Windows NT are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.

This document uses the following abbreviation protocols:

Microsoft® Windows® 98 Second Edition is referred to Windows 98 SE

Microsoft® Windows® Millennium Edition is referred to Windows Me

Microsoft® Windows® 2000 Professional is referred to Windows 2000

Microsoft® Windows® XP Home Edition/Professional is referred to Windows XP

- · Microsoft product screen shots reprinted with permission from Microsoft Corporation.
- Intel, Pentium and Celeron are registered trademarks or trademarks of Intel Corporation or its subsidiaries in the United States and other countries.
- IBM and PC/AT are trademarks of International Business Machines Corporation in the United States, other countries, or both.
- · Macintosh is a trademark of Apple Computer, Inc.
- · SD logo is a trademark.
- · SDHC logo is a trademark.
- All other trademarks identified herein are the property of their respective owners.

Customer Services

Customer Services Directory

Obtain Product Information and Operating Assistance; locate your nearest Dealer or Service Center; purchase Parts and Accessories; or make Customer Service and Literature requests by visiting our Web Site at:

http://www.panasonic.com/help

or, contact us via the web at:

http://www.panasonic.com/contactinfo

You may also contact us directly at: 1-800-211-PANA (1-800-211-7262), Monday-Friday 9 am-9 pm; Saturday-Sunday 10 am-7 pm, EST.

TTY users (hearing or speech impaired users) can call 1-877-833-8855.

Accessory Purchases

Purchase Parts, Accessories and Instruction Books online for all Panasonic Products by visiting our Web Site at:

http://www.pasc.panasonic.com

or, send your request by E-mail to:

npcparts@us.panasonic.com

You may also contact us directly at:
1-800-332-5368 (Phone) 1-800-237-9080 (Fax Only)
(Monday - Friday 9 am to 9 pm, EST.)
Panasonic Service and Technology Company
20421 84th Avenue South, Kent, WA 98032
(We Accept Visa, MasterCard, Discover Card, American Express, and

TTY users (hearing or speech impaired users) can call 1-866-605-1277.

Service in Puerto Rico

Personal Checks)

Panasonic Puerto Rico, Inc. San Gabriel Industrial Park, Ave. 65 de Infantería, Km. 9.5, Carolina, Puerto Rico 00985 Phone (787)750-4300, Fax (787)768-2910

Warranty

PANASONIC CONSUMER ELECTRONICS COMPANY, DIVISION OF PANASONIC CORPORATION OF NORTH AMERICA One Panasonic Way, Secaucus, New Jersey 07094 PANASONIC PUERTO RICO, INC. San Gabriel Industrial Park, Ave. 65 de Infantería, Km. 9.5, Carolina, Puerto Rico 00985

Panasonic Home Photo Printer Limited Warranty

Limited Warranty Coverage

If your product does not work properly because of a defect in materials or workmanship, Panasonic Consumer Electronics Company or Panasonic Puerto Rico, Inc. (collectively referred to as "the warrantor") will, for the length of the period indicated on the chart below, which starts with the date of original purchase ("Limited Warranty period"), at its option either (a) repair your product with new or refurbished parts, or (b) replace it with a new or a refurbished product. The decision to repair or replace will be made by the warrantor.

Parts One (1) Year Labor One (1) Year

During the "Labor" Limited Warranty period there will be no charge for labor. During the "Parts" Limited Warranty period, there will be no charge for parts. You must carry-in or mail-in your product prepaid during the Limited Warranty period. This Limited Warranty excludes both parts and labor for batteries, and cosmetic parts (cabinet). This Limited Warranty only applies to products purchased and serviced in the United States or Puerto Rico. This Limited Warranty is extended only to the original purchaser and only covers products purchased as new.

Carry-In or Mail-In Service

For Carry-In or Mail-In Service in the United States call 1-800-211-PANA (1-800-211-7262).

For assistance in Puerto Rico call Panasonic Puerto Rico, Inc. (787)-750-4300 or fax (787)-768-2910.

When shipping the unit carefully pack, include all accessories, and send it prepaid, adequately insured and preferably in the original carton. Include a letter detailing the complaint and provide a day time phone number where you can be reached.



Warranty (continued)

IF REPAIR IS NEEDED DURING THE LIMITED WARRANTY PERIOD THE PURCHASER WILL BE REQUIRED TO FURNISH A SALES RECEIPT/PROOF OF PURCHASE INDICATING DATE OF PURCHASE, AMOUNT PAID AND PLACE OF PURCHASE. CUSTOMER WILL BE CHARGED FOR THE REPAIR OF ANY UNIT RECEIVED WITHOUT SUCH PROOF OF PURCHASE.

Limited Warranty Limits And Exclusions

This Limited Warranty ONLY COVERS failures due to defects in materials or workmanship, and DOES NOT COVER normal wear and tear or cosmetic damage. The Limited Warranty ALSO DOES NOT COVER damages which occurred in shipment, or failures which are caused by products not supplied by the warrantor, or failures which result from accidents, misuse, abuse, neglect, bug infestation, mishandling, misapplication, alteration, faulty installation, set-up adjustments, misadjustment of consumer controls, improper maintenance, power line surge, lightning damage, modification, introduction of sand, humidity or liquids, commercial use such as hotel, office, restaurant, or other business or rental use of the product, or service by anyone other than a Factory Service Center or other Authorized Servicer, or damage that is attributable to acts of God.

THERE ARE NO EXPRESS WARRANTIES EXCEPT AS LISTED UNDER "LIMITED WARRANTY COVERAGE". THE WARRANTOR IS NOT LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THIS PRODUCT, OR ARISING OUT OF ANY BREACH OF THIS LIMITED WARRANTY. (As examples, this excludes damages for lost time, lost calls or messages, cost of having someone remove or re-install an installed unit if applicable, travel to and from the servicer. The items listed are not exclusive, but are for illustration only.) ALL EXPRESS AND IMPLIED WARRANTIES, INCLUDING THE WARRANTY OF MERCHANTABILITY, ARE LIMITED TO THE PERIOD OF THE LIMITED WARRANTY.

Some states do not allow the exclusion or limitation of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the exclusions may not apply to you.

This Limited Warranty gives you specific legal rights and you may also have other rights which vary from state to state. If a problem with this product develops during or after the Limited Warranty period, you may contact your dealer or Service Center. If the problem is not handled to your satisfaction, then write to the warrantor's Consumer Affairs Department at the addresses listed for the warrantor.

PARTS AND SERVICE, WHICH ARE NOT COVERED BY THIS LIMITED WARRANTY, ARE YOUR RESPONSIBILITY.

Other

Index

ACCESS Lamp	
Calendar Printing Composite Printing	
D Date	, 70
E Enlarging Images	, 60
Feed Roller	. 69
Index Printing	, 16
L LCD Monitor	
Moving Images	
Number of Copies	. 26
Paper and Ink Set	. 14 . 58 , 59 , 69
Power Cord	, 60 , 32 , 60 , 52 , 48

R	
Reducing Images 42	2, 46
Rotating Images 42	2, 46
S	
Scene	
SDHC Memory Card	2′
SD Memory Card	2′
Show by Date	40
Status Monitor	56
Thermal Heads	64
W Warranty	75

Notes

Others

Notes

Panasonic Consumer Electronics Company, Division of Panasonic Corporation of North America

One Panasonic Way, Secaucus, New Jersey 07094

Panasonic Puerto Rico, Inc.

San Gabriel Industrial Park, Ave. 65 de Infantería, Km. 9.5, Carolina, Puerto Rico 00985

Copyright:

- This material is copyrighted by Panasonic Communications Co., Ltd., and may be reproduced for internal use only. All other reproduction, in whole or in part, is prohibited without the written consent of Panasonic Communications Co., Ltd.
- © 2007 Panasonic Communications Co., Ltd. All Rights Reserved.